A Section 508–conformant HTML version of this article is available at https://doi.org/10.1289/EHP8671.

Toward Better Estimates of the Cost of Climate Change Mitigation: Guidelines for Studying Potential Health Benefits

Wendee Nicole

https://doi.org/10.1289/EHP8671

Worldwide, efforts to mitigate climate change through reduction of greenhouse gas emissions are falling short of what is needed to meet ambitious international goals such as the Paris Agreement.[1] Research estimating the health effects of mitigation (HEM) indicates that climate change mitigation activities could have substantial health co-benefits that partially or completely offset the economic costs of mitigation. Yet few HEM findings have been incorporated into cost estimates of mitigation activities, making the activities appear unacceptably expensive to policymakers.[2] The authors of a recent commentary in *Environmental Health Perspectives* present guidelines for conducting and reporting HEM studies so that the results are comparable and responsive to stakeholder priorities and that health benefits are thus more often considered in cost estimates.[3]

HEM research has often operated in a silo, not effectively engaging stakeholders in the research process. That could be one reason for the low uptake of their recommendations by policy makers, according to lead commentary author Jeremy Hess, a professor in the University of Washington's Department of Environmental and Occupational Health Sciences. The University of Washington, the World Health Organization, and the Wellcome Trust's Our Planet, Our Health funding foundation jointly convened a workshop in London to develop consistent guidelines for planning and reporting HEM research. Among these guidelines were recommendations for how to better engage stakeholders in the research process—ultimately leading to increased uptake when developing mitigation policies.

"Ultimately, HEM research aims to inform policy decisions," says Hess. "Without knowing the priorities of policy makers and how they might use the estimates, such research is at risk of being ignored. Dialogues between policy makers and scientists take time, and such processes are often not supported as part of research activities."

Led by Hess and Kristie Ebi—also a professor of Environmental and Occupational Health Sciences at the University of Washington—the team conducted a modified Delphi process to reach preliminary consensus on issues related to engaging stakeholders before scoping projects, modeling approaches to use, choices about model parameters, and communicating results. The outcome was then discussed in depth at the expert workshop.

At the end of the process, the authors developed a list of specific recommendations to optimize stakeholder engagement and study design and reporting. They encouraged the creation of trans- and interdisciplinary stakeholder teams to more thoughtfully develop research questions and anticipate unforeseen consequences. They also recommended ways to ensure future HEM studies yield high-quality results, including best practices for describing the study

Climate change mitigation activities often produce health co-benefits in addition to simply reducing greenhouse gas emissions. For example, installing wind power facilities to replace coal-fired power plants means fewer hazardous air pollutants in regional and local air. That could result in fewer hospitalizations for respiratory diseases. Image: © iStockphoto/Baxternator.

population and health metrics used, reporting counterfactual scenarios, accounting for different levels of policy uptake, and sharing data.

"As the paper notes, a wide range of methods have been used to evaluate ancillary health benefits and costs of technologies and policies to reduce carbon emissions," says Tracey Holloway, a professor of environmental studies at the University of Wisconsin–Madison who was not involved with the paper. "With so many different study design approaches, it can be difficult to compare study results in an 'apples to apples' manner. This study lays a roadmap for future work to enhance the rigor, comparability, and relevance to decision makers."

"I would have loved to see a few specific examples—case studies to show the recommendations in practice," Holloway adds. "Sharing a few concrete examples would clarify some of the points in the paper, especially to readers who may not have thought about the nuts and bolts of studies like this."

Despite the emphasis on engaging stakeholders and developing more standardized approaches, that result is not assured, says Michael Brauer, a professor of occupational and environmental health at the University of British Columbia who also was not an author of the commentary. "The goal of standardization as a means to hopefully increase uptake of these kinds of analyses for policy development and implementation is certainly worthwhile," Brauer says. "But even if this guidance is followed, it certainly doesn't guarantee that there will be more use of [HEM] analyses in policy prioritization."

That is nevertheless the ultimate aim of the guidance. "At the end of the day, we hope these guidelines will lead to more widespread, rapid implementation of climate change mitigation, which will be good for health," says Hess. "It will help reduce the risks of dangerous climate change in the long run and will produce a raft of important health benefits starting almost immediately."

Wendee Nicole is an award-winning science writer based in Houston.

References

1. United Nations Framework Convention on Climate Change. 2020. The Paris Agreement. [Website.] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement [accessed 18 November 2020].
2. Workman A, Blashki G, Bowen KJ, Karoly DJ, Wiseman J. 2018. The political economy of health co-benefits: embedding health in the climate change agenda. Int J Environ Res Public Health 15(4):674, PMID: 29617317, https://doi.org/10.3390/ijerph15040674.
3. Hess JJ, Ranadive N, Boyer C, Aleksandrowicz L, Anenberg SC, Aunan K, et al. 2020. Guidelines for modeling and reporting health effects of climate change mitigation actions. Environ Health Perspect 128(11):115001, PMID: 33170741, https://doi.org/10.1289/EHP6745.